Particle fluxes and recent sediment accumulation on the Aquitanian margin of Bay of Biscay

Titre	Particle fluxes and recent sediment accumulation on the Aquitanian margin of Bay of Biscay
Type de publication	Article de revue
Auteur	Schmidt, Sabine [1], Howa, Hélène [2], Morteau, Hélène [3], Lombard, Fabien [4], Anschutz, Pierre [5], Labeyrie, Laurent [6]
Editeur	Elsevier
Type	Article scientifique dans une revue à comité de lecture
Année	2009
Langue	Anglais
Date	2009
Numéro	8
Pagination	1044 - 1052
Volume	29
Titre de la revue	Continental Shelf Research
ISSN	0278-4343
Mots-clés	Bay [7], Biscay [8], of [9]
Résumé en anglais	As a part of the ANR-Forclim experiment, particle mass fluxes and sedimentation processes were investigated on the slope of Aquitanian margin of the Bay of Biscay, between the canyons of Cap-Breton and Cap-Ferret. Interface sediments were collected along a depth transect from 145 to 2000 m; simultaneously a mooring line was deployed at the deepest station (WH, 2000 m) with two traps (800 and 1700 m) for a 16-month period (June 2006–November 2007). 210Pb activities of settling particles and of interface sediments were determined to study transport processes of particles. Sediment and mass accumulation rates, calculated from excess 210Pb profiles in the sediment column, show the expected decreasing trend with depth, as usually observed on margins. Mean particulate mass fluxes at 800 and 1700-m depth at site WH are, respectively, 27 and 70 g m−2 a−1.The 210Pb budget points out events of temporary high lateral input of particles. The comparison of mass and 210Pb fluxes between the water column and the seabed indicates that lateral transport plays an important role in particle accumulation on the Aquitanian margin. Regarding the objectives of the ANR-Forclim program, which aims to improve significantly the interpretation of fossil foraminifera signals, as a proxy for hydrological changes in the North Atlantic ocean, these results highlight advection processes must be considered when interpreting fluxes of foraminifers on the Aquitanian margin.
URL de la notice	http://okina.univ-angers.fr/publications/ua3900 [10]
DOI	10.1016/j.csr.2008.11.018 [11]
Lien vers le document	http://dx.doi.org/10.1016/j.csr.2008.11.018 [11]

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